

PRESSED CERAMIC FIBER BOARD AND METHOD OF MANUFACTURE

ABSTRACT OF THE DISCLOSURE

A fibrous high temperature pressed rigid board is made using alumina silica fiber, soluble fiber (so-called green fiber or body fluid soluble fiber) or mineral wool or a combination of two or more of the above fiber types. The board is made by adding a water soluble, inorganic, granular/powder binder to the fiber at a point in the process between the fiber collection chamber and the blowing nozzle or spinning apparatus so that the binder is dispersed throughout the fiber as the continuous fleece or blanket is being produced. The fiber can also be accumulated on a wheel until the desired thickness or basis weight is achieved. The fleece is cut into a predetermined size and is then subjected to the application of water spray and placed into a hot press at a temperature sufficient to cause the water to heat and produce steam which rapidly dissolves the binder within the fleece and left in the press until dry or nearly dry. The solubility of the binder is affected by the temperature of the water and steam and to the benefit of the product; it is not equally reversible, which is to say that the binder does not dissolve again if subjected to water after the board has been pressed. The binder chemically reacts with the fiber used in the board. The density and thickness are dependent on basis weight of fiber and pressed thickness.